THE ABSENCE OF EFFECT OF 2,4-DICHLOROPHENOXYACETIC ACID (2,4-D) ON CERTAIN FUNGI IN CULTURE[1]

HERMAN BEERMAN, M.D.

From the Department of Dermatology and Syphilology, School of Medicine and Graduate School of Medicine, University of Pennsylvania, Donald M. Pillsbury, M.D., Professor

Two problems in practical mycology are the inhibition of the growth of saprophytic fungi in cultures and a rapid, simple cultural method of differentiating between *Microsporon audouini* and *Microsporon canis* (*lanosum*), the organisms most often found in cases of tinea capitis. Leise and James (1, 2) have, to a large extent, made easy the isolation of dermatophytes from saprophytes in mixed cultures by taking advantage of the fact that a medium of high alkalinity (initial *p*H of 10.5) inhibits saprophytic fungi and allows the dermatophytes to grow. While there are good methods for the cultural differentiation between the two species of *Microsporon*, there is still much to be desired in this direction.

In 1944 an outstanding development in weed killers was announced. A group of growth-regulating or plant hormones were found to act as herbicides with selective differential effects on a variety of plants (3, 4). The most promising of these was the now widely publicized 2,4-D (3,4-dichlorophenoxyacetic acid). At the suggestion of Dr. Fred D. Weidman, a preliminary study of the possibilities of this substance on the two mycologic problems previously mentioned, was undertaken.

Inocula from cultures of *Microsporon audouini*, *Microsporon canis* and *Aspergillus fumigatus*, supplied by Mr. Gerbert C. Rebell, were planted on Sabouraud's medium containing 0.0001 per cent, 0.001 per cent; 0.01 per cent; 0.1 per cent; 0.25 per cent, and 0.5 per cent of the sodium salt as well as on media containing the same concentration of the acid (previously dissolved in ether). After observation periods up to two months, no difference was noted between the growth of fungi on these cultures and the controls. Since 2,4-D might have some effect if dusted on cultures, a quantity of either the sodium salt or acid of 2,4-D, equivalent to 0.5 per cent of the total volume of the culture medium, was sprinkled on the surface of cultures of the three organisms. Again, no visible effect was noted.

Thus, under the circumstances of this preliminary study, 2,4-D has no inhibiting effect on the saprophytic fungus tested nor is it of value in differentiating between *Microsporon audouini* and *Microsporon lanosum*. This study does not, however, preclude the possibility of some effect of 2,4-D on organisms in scales and hair.

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